Astronomical Image Mosaicking – An Application that allows Comparison of Cluster and Grid Technologies for Performance and Utility

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This talk compares two methods for running an application composed of a set of modules on a grid. The set of modules generates large astronomical image mosaics by composing multiple small images. This software suite is called Montage (http://montage.ipac.caltech.edu/). The workflow that describes a particular run of Montage can be expressed as a directed acyclic graph (DAG), or as a short sequence of parallel (MPI) and sequential programs. In the first case, Pegasus can be used to run the workflow. In the second case, a short shell script that calls each program can be run. In this paper, we discuss the Montage modules, the workflow run for a sample job, and the two methods of actually running the workflow. We examine the run time for each method and compare the portions that differ between the two methods.

For questions, please contact Dan Katz at 4-7359